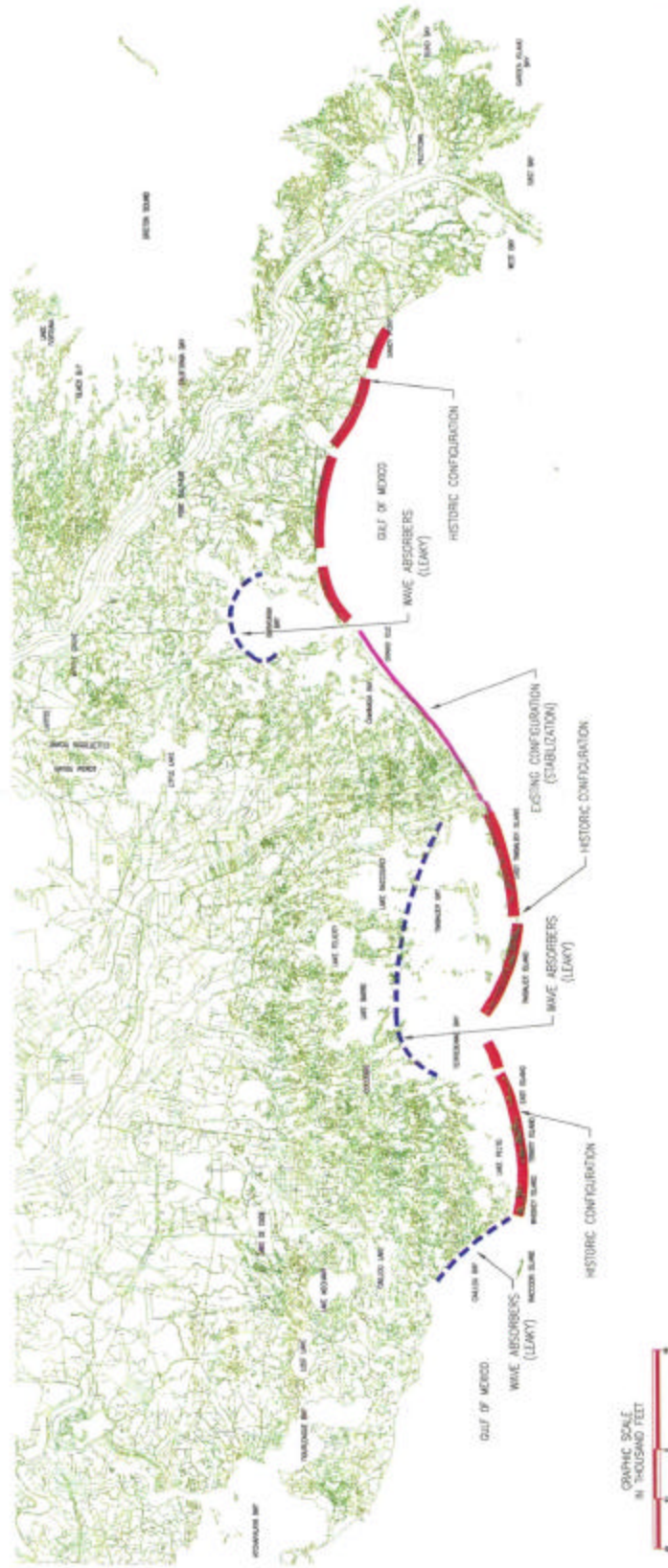


1.0 INTRODUCTION

The purpose of the Step J report, Assessment of Management Alternatives, is to quantify the present and future effects of the Phase 1 barrier island alternatives formulated and defined in the Step I report (Louisiana Department of Natural Resources (LADNR 1998i).

Alternative 1, shown in Figure 1-1, begins at the western end of the study area with wave absorbers along the marsh shoreline. The wave absorbers begin at the mouth of Bayou Grand Caillou, paralleling the marsh shoreline to the southeast, ending due north of Whiskey Island's west end. Whiskey Island is included in Alternative 1, and Whiskey Pass is closed. New Cut is also closed, making Whiskey, Trinity, and East Islands one continuous island. Wine Island Pass is left open, but Wine Island is expanded. The islands are constructed with a dune height of (2.7 meters ((8.9 feet), and an overall width of (600 meters ((1,970 feet). A second line of wave absorbers begins north of Wine Island Pass in Lake Pelto at the marsh fringe. This line of wave absorbers follows the southern end of Lake Barre and Lake Raccourci, down to Pierle Bay in the southeast corner of Timbalier Bay. Cat Island Pass remains open, and Timbalier Island is rebuilt. Little Pass is left open, and East Timbalier Island is rebuilt and connected to the Caminada-Moreau Headland, closing Raccoon Pass. The islands are rebuilt to the same specifications as the Isle Dernieres chain. The Caminada-Moreau Headland and Grand Isle area are rebuilt to a dune height of (2.7 meters ((8.9 feet), but do not widen the existing shoreline. The Plaquemines shoreline is rebuilt to the same specifications as the Isle Dernieres and Timbalier sections, but Barataria Pass, Coup Abel, Quatre Bayou Pass, and several smaller passes are left open.

FIGURE 1-1. BARRIER ISLAND PLAN MANAGEMENT ALTERNATIVE #1



Alternative 2 along the western end of Isle Dernieres, Raccoon Island is rebuilt and reconnected to Whiskey Island by closing Coup Colin. Whiskey Pass is left open, with Trinity and East Island connected due to the closure of New Cut. These islands are built with a dune height of (2.0 meters ((6.6 feet), and an overall width of (375 meters ((1,230 feet). Cat Island Pass is left open and Timbalier Island is rebuilt. Little Pass is left open, and East Timbalier Island is rebuilt and connected to the Caminada-Moreau Headland by closing Raccoon Pass. These islands are rebuilt to the same specifications as the Isle Dernieres chain. The Caminada-Moreau Headland and Grand Isle are also rebuilt to the same specifications as the Isle Dernieres chain. At the Plaquemines shoreline, Barataria Pass, Coup Abel, Quatre Bayou Pass, and several smaller passes are left open. This area is also rebuilt to the same specifications as the other island chains. Alternative 2 is shown in Figure 1-2.

The changes in physical and hydrological conditions are quantified using numerical modeling and historical land loss rates imposed on LANDSAT images. The results are then used to determine the benefits provided by the alternatives for economic and environmental resources. Alternatives 1 and 2 are compared to the future without project conditions presented in the Step H reports - Forecasted Trends in Environmental and Economic Conditions. (LADNR 1998h.i and h.ii).

Section 2.0 of this report presents projected wetland loss into the future using historical land loss rates and predicted changes in these rates associated with the alternatives. Section 3.0 quantifies the future hydrologic conditions associated with Alternatives 1 and 2 including water level, salinity, and storm surge. Section 4.0 quantifies the effects of Alternatives 1 and 2 in changing the wave climate. Using the information from the previous sections, Section 5.0 discusses the environmental benefits of the alternatives. Section 6.0 quantifies the projected economic benefits of the alternatives. Finally, Section 7.0 summarizes the overall benefits of Alternatives 1 and 2.

The information presented in this report will provide the benefits associated with each alternative. The final report of the Barrier Shoreline Feasibility Study will consolidate the benefits and costs associated with the alternatives for use in selecting a preferred plan.

